

REQUEST FOR RECONSIDERATION

The amendment to claims 3 and 27 is supported by claim 7; this amendment has been added to clarify that the forming of the isolation region takes place using a substrate including the first oxide layer, the first sacrificial layer, and the first nitride layer. The dependency of claim 7 has been changed. Claim 33 corresponds to claim 5 in independent form. Claims 34-36 are supported by claims 6, 8 and 2, respectively. No new matter has been added. Claims 3-11, 18, 19, 23 and 27-36 are present and active in the application.

The rejection of the claims under 35 U.S.C. 103 over Hong et al. in combination with Liang is respectfully traversed. In the claimed invention the first oxide layer, the first sacrificial layer and the first nitride layer are present during formation of the isolation region, including during formation of the trench.

Hong et al. describes a method for forming a trench type isolation film using annealing. In the method, as illustrated in Figures 3-5 and the associated text, a pad oxide film **42** and an insulating film of silicon nitride **44** are formed on a substrate and patterned to have an opening (Figure 3). A trench is formed in the substrate through the opening in films **42** and **44** (Figure 4), and then an oxide film **48** fills the trench and covers the film of silicon nitride **44**, and another oxide film **50** is formed on the oxide film **48** (Figure 5). A silicon nitride film may be formed between oxide film **48** and oxide film **50**, having a thickness of about 100 to 500 angstroms (paragraph [0051]).

Liang has been cited for elements of dependent claims, and does not provide any details of the formation of the shallow-trench isolation structure illustrated.

As claimed, the present invention forms an isolation region in a semiconductor substrate. When the isolation region is formed (for example, by etching a trench into the substrate and filling the trench with oxide, as specified in claims 3-6, 8-11, 18, 19, 23 and 27-32) the first oxide layer, the first sacrificial layer and the first nitride layer, are present. Hong et al. forms an isolation region in the substrate when only two layers are present: the pad oxide film **42** and the insulating silicon nitride film **44**. Hong et al. forms oxide film **48** and the silicon nitride film (not illustrated) during formation of the isolation region, using oxide film **48** to fill the trench. Liang does not provide any details of the formation of the shallow-trench isolation structure. Accordingly, applicant submits that

the claimed invention is not obvious over the applied references. Withdrawal of this ground of rejection is respectfully requested.

Claim 33, which corresponds with original claim 5 in independent form, and claims dependent thereon, are distinguished from the applied references. None of the applied references suggest that the first and second sacrificial layers have a thickness less than the thickness of the first nitride layer.

Applicants submit that the present application is now in condition for allowance. Early notice of such action is earnestly solicited.

Respectfully submitted,



Paul E. Rauch, Ph.D.
Registration No. 38,591

EVAN LAW GROUP LLC
566 W. ADAMS ST., SUITE 350
CHICAGO, IL 60661
(312) 876-1400